Our future is digital

Transitioning to a smarter, more connected, and data-driven electricity system

ELECTRICITY AUTHORITY
TE MANA HIKO

In future, New Zealanders will use interconnected smart technologies to manage their electricity.

People will use these technologies to manage their electric appliances, electric vehicle charging, heating and other devices in their homes and businesses. They'll also be able to easily manage the electricity they supply to the network from their rooftop solar panels, electric vehicle and/or home batteries.

New Zealand's electricity system will also enable people to actively participate in the electricity system in these ways – and to benefit from it.

A digitalised electricity system harnesses the power of data and new technologies to efficiently deliver a secure and reliable electricity supply, at the lowest possible cost. For example:

Secure and resilient

Greater access to data and information will enable people and communities to have more control over how they use and produce electricity. This is key for a secure and resilient system.

More efficient

Trading relationships with retailers and innovative service providers will be smoother. This opens the door to being more efficient as new, smart technologies help manage energy.

More affordable

People will be rewarded for actively participating in the electricity system, which when combined with their smart use choices will help make power more affordable.

These outcomes are consistent with increased 'consumer mobility' – a future where households and businesses are active participants, equipped with data and innovative tools to seamlessly compare and switch plans and providers, choose sustainable energy options, and sell surplus power back to the grid, all with a few taps on a smart device.

As a kaitiaki of electricity, we will shape the industry rules and regulations to support our transition to a smarter, more connected and data-driven system.

We want your feedback

This paper sets out our current thinking as a starting point for developing a roadmap and actions to support this transition. We want your feedback on this – to test our ideas and help shape our digital future.

Our future is digital

We need to digitalise

In future, New Zealanders will use interconnected smart technologies, and our electricity system will deliver greater social and economic benefits to consumers across Aotearoa New Zealand. To realise this future, we need to digitalise – we must use technology to transform how our system works, for the better.

Digitalisation improves consumer mobility by giving consumers more choices, leading to greater flexibility in how they use energy. It also makes their decision-making more straightforward, with simplified and more consistent information.

The Electricity Authority is shaping the industry rules and regulations to support New Zealand's transition to this digitalised future. To find out more about our digitalisation work programme, visit ea.govt.nz/digitalisation

Help us get it right

We are developing a roadmap of actions to help drive digitalisation across all points of the electricity system. We will empower and support industry to take the lead where it makes sense to do so.

First, we need to understand what's already happening and identify the barriers and the opportunities. Your input will help us develop a system-wide view for further discussion. As we progress towards a digitalised future, change will come from a range of sources – industry, innovators, researchers, communities, Government and regulators – this is why we want to hear your views.

This paper outlines our current thinking and asks questions about the three digitalisation principles. This is our starting point in developing a system-wide view of the steps needed and currently being taken to digitalise the electricity system. We are seeking your input to help us understand what's already happening and to identify any barriers and opportunities.

Find out more

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ea.govt.nz/digitalisation/feedback

The three digitalisation principles

Our research shows that data visibility, interoperable systems and simple solutions are critical for building a digitalised system. Together, these three principles can create an efficient and inclusive electricity system and empower consumers.

Data visibility

Having more visible data improves decision-making across the system. It also avoids participants gaining an unfair advantage from unequal access to data, where sharing is necessary.

Interoperable systems

Consolidating and standardising data, especially at the points of interaction, can reduce connectivity challenges between market participants. Interoperability makes it possible to share this data and information across systems.

Simple solutions

Making information, options and actions clearer gives people and communities more choice in how and when they use electricity. It also increases their say in how the electricity sector evolves.

Have your say

Read this paper, share it with others who might be interested, and tell us what you think.

You can do this by completing our submission form or online survey. We are also open to meeting with you. Feedback is due by **5pm, Thursday 10 July 2025**.

ELECTRICITY AUTHORITY
TE MANA HIKO

Contents

1. Digitalising the system for the electricity consumer

1.1 A digitalised electricity system supports consumers having more control over how they use electricity and engage with the electricity market.

1.2 In future, consumers will use interconnected[1] smart technologies and our electricity system will deliver greater social and economic benefits to consumers across Aotearoa New Zealand:

(a) energy costs will be simple and easy to manage

(b) smart technologies will help to manage energy efficiently

(c) trading relationships between retailers and innovative service providers will be smoother

(d) consumers will be rewarded for actively participating in the electricity system.

1.3 These outcomes are consistent with consumer mobility – a future where households and businesses are active participants, equipped with data and innovative tools to seamlessly compare and switch plans and providers, choose sustainable energy options, and sell surplus power back to the grid, all with a few taps on a smart device.

(a) Cost control

Control over costs
(simplified and optimised)

(b) Efficient management

Energy management
made easy

(c) Easy trading

Smoother trading relationships
between retailers/innovators

(d) Participation

Rewards for participating in electricity
sharing/trade/investment

1.4 The Electricity Authority Te Mana Hiko (the Authority, we, our, us) is actively supporting a more consumer-centric future for the electricity system by:

(a) Improving consumer mobility to give households and businesses more agency over their electricity use. For example, we are working on improving electricity retailing by enabling consumers to have different retailers for different services, and supporting the Ministry of Business, Innovation and Employment (MBIE) to develop a 'consumer data right' for the electricity sector.

+ Read more about MBIE's 'consumer data right'

(b) Starting a discussion on a decentralised power system that will help encourage local innovation. In a decentralised electricity system, communities have a bigger role in energy planning, trading, generation, and ownership or investment.

+ Read the potential outcomes and benefits of decentralisation in our recent green paper

1 Interconnection means that connections between systems or technologies are not simply one-to-one or one-way – the connections can be many-to-many and in more than one direction.

1.5 This paper is focused on digitalisation, which is aimed at delivering an electricity system that is data-rich, open, interconnected and efficient. For example, we are currently looking at how to make network capacity and constraints more visible, and enabling multiple trading relationships to support interconnection.

1.6 Without a supportive digital ecosystem provided through digitalisation, we cannot empower consumers to be mobile or take full advantage of a decentralised electricity system.

+ Read Chapter 5 for details on our digitalisation initiatives and connections with our wider work programme

Digitalisation can improve consumer engagement and efficiency

1.7 In this context, digitalisation means using technology to improve our electricity system. We want to make sure that the system and consumers are able to realise the positive effects of technology – through end-to-end system visibility and connectivity.

1.8 Getting digitalisation right will enable consumers, industry participants and innovators to take advantage of a range of important benefits.

1.9 Consumers will benefit by:

(a) simplified and more consistent information about their electricity use

(b) more choices, leading to greater flexibility in how they use energy

(c) lower costs through more choices and a more efficient system.

Industry participants and innovators will benefit by:

(d) improved consumer engagement through better information and automation

(e) a smarter system, resulting in more efficient and sustainable investment choices

(f) lower barriers to entry for the creation of new services.

Everyone wins from system-wide benefits due to:

(g) greater and faster uptake of energy assets, including distributed energy resources

(h) increased consumer mobility, promoting healthy competition in the market

(i) a clear view of challenges and opportunities, resulting in better planning and stronger systems.

Tell us what you think about digitalisation

1.10 Our future is digital – and as a kaitiaki of the electricity system, we will ensure the industry rules and regulations support our transition to a smarter, more connected and data-driven system.

1.11 Through this paper, we want to gather information on what industry and innovators are currently doing to help digitalise the electricity system. We want to understand the challenges or barriers, so we can look at the regulations within our remit and make changes to support digitalisation.

1.12 Tell us what you think about the challenges and opportunities you see, and any work or research you are doing, or any changes you're making, that contribute to digitalisation of the electricity system. This will help us take a comprehensive, system-wide view that will enable us to refine and build our own digitalisation roadmap of actions that we can undertake or support.

+ Read Chapter 6 for details on how to share your views

What do you think?

1

What could stop or slow digitalisation of the electricity system?
What would make it successful? How far should digitalisation go?

The three digitalisation principles

1.13 Our research shows there are three principles crucial for building a digitalised system: data visibility, interoperable systems and simple solutions. Chapters 2, 3 and 4 of this paper focus on each of these principles and how we hope to improve them.

Data visibility

Visibility increases the amount of observable data, improving decision-making across the system. It also avoids participants gaining an unfair advantage from unequal access to data, where sharing is necessary.

Interoperable systems

Interoperability makes it possible to share data and information across systems. Consolidating and standardising data, especially at the points of connection, can reduce connectivity challenges between market participants.

Simple solutions

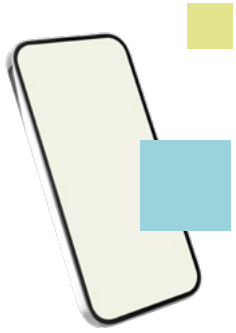
Simplification improves consumer engagement. It makes information, options and actions clearer. This gives people and communities more choice and say in how the electricity sector evolves.

1.14 Below is a (stylised) summary of some of the steps we expect will be needed for each principle.

Set network visibility data requirements	Help create data-sharing and trust frameworks (eg, identity, consent)	Better, clearer and more consistent information for decision makers
Require electricity distributors to publish detailed data on network capacity, assets and performance, along with other relevant information	Create data and information exchange architecture and standards	Better tools and services to help consumers find the best plan and services for their needs
Integrate storage of network capacity, asset, and performance data (and some information) *across* networks	Alongside EECA, develop or support the development of demand-side flexibility protocols	Automate sharing data on consumption and plans using an application programming interface (API)

The goal

Consumers are empowered to decide how they use electricity and interact with the electricity market.
The electricity system is data-rich, open, interconnected and efficient.



2. We need more data visibility

2.1 The main barrier to a transparent electricity system is a lack of available data. To support informed decision-making across the system by industry participants and consumers, we need to increase the amount of data that can be seen and used.

2.2 When some participants have access to more or better data than others, it can create unfair advantages. We want to make sure the right data is available to support decision-making and develop new services – while also protecting consumer privacy, keeping data secure and maintaining commercial sensitivity.

Turning raw facts into meaningful insights – data vs information

The terms 'data' and 'information' are often used interchangeably, but they have different meanings. Data needs to be processed or transformed to become information that supports decision-making.

Definition of data

Data typically refers to 'raw' or unstructured facts and figures. For example, text, numbers, coordinates, images, audio or video.

Examples of data:

Common types of electricity data include:

- usage (for example, electricity consumption by a household's heating system)
- identification (for example, installation control point number)
- asset (for example, installed capacity of rooftop solar panels or batteries)
- operating (for example, power quality data, used by networks).

The timing and frequency of data access required for decision-making vary according to the type of data. For example, the volume of energy produced by rooftop solar panels changes more frequently, while the size of the rooftop solar installation only changes if it is removed or upgraded. To make more informed decisions, households or businesses need access to more frequent solar generation data than installed capacity data. Additionally, the rules for who can access data and how it is stored also differ based on the type of data.

Definition of information

Data becomes information once it has been organised, processed and interpreted to find meaning and insights.

Examples of information:

For example, an electricity retailer might use a statistical model that combines local temperature and household electricity usage data to forecast demand for the next hour, day, month or year. The retailer may have invested in developing a proprietary model or algorithm to improve the value of their retail products and services. This adds value and makes it more useful than the raw data alone. However, this information can only be produced if the raw data is accessible.

What do you think?

2

Do you agree with how we have defined 'data' and 'information', especially in the context of making data more visible?

Digitalisation improves data visibility

2.3 To improve visibility, we need to ensure key data is routinely digitised and accessible to everyone who needs it. However, parts of the power system currently have little or no digitised data available.

2.4 Digitisation refers to capturing data using tools and methods that keep it safe and secure in a digital form. Determining which data is important to capture is a significant first step. At a minimum, there are benefits in capturing the:

- physical assets that make up the electricity system (including consumer and low-voltage assets)
- activity and performance of the electricity system (including data on plans/products, consumption and impacts on power quality).

2.5 Other data that could be made more visible may include more granular operating or status data (for example, expected time remaining to charge a battery energy storage system or electric vehicle).

What do you think?

3

What data do you think needs to be more visible?

Accessible data supports a fairer electricity system

2.6 Accessible data (or accessibility) refers to making data available to those who require it to improve the system for the benefit of consumers. This requires a clear understanding of who has rights to the data, the purpose of accessing it, and the rules for consent and security. We also need to balance commercial objectives and privacy rights with making data available to make the electricity system more efficient and inclusive. For example, the United Kingdom has adopted a 'presumed open'[2] principle where there is a shared expectation that data should be accessible to everyone, wherever possible.

+ Read more about the 'presumed open' principle

2.7 Access to data is currently limited in some parts of the system. For example, some distributors have poor visibility of their low-voltage networks, which are more complex and costly to monitor than their medium- and high-voltage networks. This means they are hampered from being able to best manage, invest in and future-proof their networks to support electrification. Consumers connected to these networks are then also unable to see how they can help network management and miss opportunities to realise any value themselves.

2.8 Consumers benefit from increased visibility because it gives them access to the data they need to make informed decisions. Consumers also benefit when electricity distributors and service providers (which may include retailers) can use the data to develop new products and services. These may include flexibility services or demand response mechanisms that support more efficient energy use. Consumers could then be rewarded for participating in electricity sharing, trade and potentially even investment.

Today

Distributors do not have full visibility of consumers' distributed energy resources (DERs).[2] Consumers can be flexible with their consumption, or use their DER in response to time-of-use pricing, but receive no specific signal to respond to network constraints.

In the future

Retailers and distributors could be able to instantly access specific consumer data. This means retailers and distributors can send automated requests to consumers, or their agents, to use their flexibility or DER. The consumer will get paid if they agree to these requests.

Real-life example of increased data visibility

2.9 Our Energy (New Zealand platform), in partnership with EPEX SPOT, is launching a local flexibility market called 'Localflex'. This new market will let distributors raise their needs (such as network constraints) with local flexibility service providers. These providers can then register and trade their flexibility or DER. According to Our Energy, the key benefits include simpler contracts, clear visibility of network needs (by location, time and through price signals), and more open, consistent and transparent transactions in local flexibility.

+ Read about Our Energy's Localflex initiative

2 Data must be made available for all people to use, unless the organisation responsible for handling the data provides specific evidence to show that the data should be withheld or its availability reduced.

3 Distributed energy resources (DER) can include rooftop solar photovoltaic (PV) systems, smaller-scale solar and wind farms, micro-hydro generation, battery energy storage systems (BESS) and electric vehicles (EVs). In Australia, these are referred to as consumer energy resources (CER) to distinguish them from grid-side DER like large grid-scale BESS.

What do you think?

4

What challenges do you think we might face trying to improve visibility?
What considerations need to be given to data privacy or cybersecurity?
How could increasing visibility create more opportunities for consumers, participants and innovators?

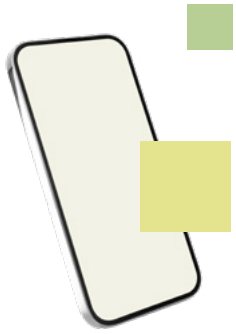
Our efforts to increase visibility

2.10 We have work underway to increase visibility by making more data available on network capacity and constraints – this includes current and future states. We expect to consult shortly on requirements for high- and medium-voltage networks as a first step and extending these to include low-voltage networks over time.

What do you think?

5

What work are you planning or doing to increase visibility within the electricity system? Are you aware of any work that contributes to this goal?



3. We need more interoperable systems

3.1 Interoperability in the electricity system is a connectivity challenge. Different participants use different protocols and standards, making it harder to share data. New Zealand's national transmission system has clear protocols, allowing the system operator to view and manage the whole network efficiently.

3.2 But local networks and consumer connections often use different standards, making data-sharing difficult. A similar issue also exists for households as smart devices and DERs use different apps. A single system (or interacting systems) to manage them – or better interoperability – would simplify choices for consumers and improve efficiency.

3.3 Working towards widespread interoperability means looking at opportunities for consolidation and standardisation.

Consolidation reduces complexity

3.4 Consolidation is about continuously refining information and processes to reduce complexity. This is especially important if the complexity of the information or process outweighs the overall benefits.

3.5 For example, while we support variations like different consumer retail plans for innovation and value, more plans can make it harder for consumers to find the right one for them (without the help of supportive tools and services). We think consolidation can reduce the complexity and improve outcomes for consumers. In this example, consolidation would mean retailers no longer offering a pricing plan if it is no longer needed, has been replaced or there are similar plans already available.

3.6 The digitisation of the electricity sector should drive innovation beyond the installation control point (ICP) – for example, consumers being able to engage in multiple trading relationships.[4] This will improve how services are packaged and presented to consumers.

Standardisation improves efficiency

3.7 Standardisation is about agreeing on how things should work at the points of connection. If we use the same data definitions and structures, we will reduce reconciliation costs across the industry and shift the 'cost of conformity' to the data holder rather than the data user. This will ensure these costs are incurred only once, rather than multiple times – making it easier for new providers to enter the market.

3.8 Standardisation applies to how data is defined and structured, not the actual data or information. But over time, we should also standardise how data is shared – including the methods used, timeliness of interchange, and how trust is established. For example:

4 Consumers currently have a single retailer that provides them with electricity services. Multiple trading relationships will give consumers the ability to contract with more than one supplier of electricity services to their home or business. This will allow them to take advantage of propositions from different suppliers. We are currently consulting on enabling multiple trading relationships and improving switching processes.

(a) An electricity consumer data right will require the industry to agree on trust frameworks for sharing data, standards for application programming interfaces (APIs), and expectations for how available and up-to-date the data must be.[4] Legacy systems may present barriers or limit the speed of consolidation and standardisation in respect of data-sharing.

(b) Enabling demand-flexible devices requires protocols, cyber security, product response (eg, turning on or off) and product status information (eg, mode, power consumption, how much hot water is left). Standardisation should account for these to maximise the usefulness of such devices as they spread across our system.

Interoperability supports demand flexibility

3.9 Consumers benefit when systems work well together. Interoperability reduces friction and makes systems simpler. Over time, this should lead to lower costs and support increased consumer mobility.

Today

A consumer might contract directly with a retailer to sell the excess generation from their rooftop solar panels. This typically happens once their battery system is fully charged.

In the future

A consumer could provide demand response to their distribution system operator.[5] They could also offer ancillary services to the system operator, or flexibility to their retailer. This would be coordinated across all parties.

Real-life examples of interoperability coming closer

3.10 In the UK, ElectraLink, UK Power Networks (a local distribution network operator), and the National Electricity System Operator ran a flexibility data-sharing trial. The trial showed how increased interoperability can benefit the electricity system. The trial aimed to share information about flexibility assets. This helped the trial's participants coordinate better and avoid potential asset conflict in business-as-usual flexibility operations across the electricity system. Good coordination can put assets to the best use for the system and can therefore allow consumers to be rewarded for the highest value of the flexibility services they can offer.

+ Read about the ESO and UKPN flexibility data trial

3.11 In New Zealand, Cortexo, Transpower as the system operator, and DER providers ran a similar trial at the transmission level. It allowed the system operator to visualise the flexible resources available in real-time.

+ Read about the Transpower Flex Visibility Project

4 Application programming interface (API) refers to applications being able to interact with each other systematically, without external user intervention once connections are established.

5 A distribution system operator goes beyond the traditional operation of a distribution network alone – it could include procurement and coordination of DER (for flexibility for example) for distribution network operation, facilitating DER participation in wholesale markets, and integrated distribution system planning.

3.12 Basis is a New Zealand company that has produced an advanced residential smart panel. The panel enables households to monitor their electricity consumption at a sub-circuit level, meaning that energy can be monitored centrally rather than by-device. Every subcircuit is configurable, which can also support households to adopt distributed energy resources.

+ Read about the Basis smart panel

What do you think?

6

What challenges do you think we might face in increasing interoperability?
What other opportunities do you think greater interoperability will bring?

Our efforts to increase interoperability

3.13 We are working on increasing interoperability so systems can work together more easily and efficiently. We are doing this by improving how consumers switch between providers and enabling relationships with multiple retailers, supporting MBIE to develop an a 'consumer data right' for the electricity sector, and improving transparency of network capacity and connection pipelines.

3.14 The Energy Efficiency and Conservation Authority (EECA) has also been piloting open communication protocol standards for interoperability with electricity system participants, including consumers, through scaled demand flexibility projects (eg, the Karaka Harbourside DSO pilot with Counties Energy) and in the FlexTalk project alongside the Electricity Engineers' Association (EEA).

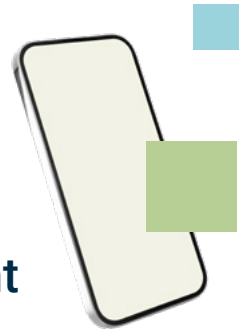
+ Read more about the EECA and EEA FlexTalk project

EECA also administers an approved Smart EV charger list based on a technical specification developed with industry and EV charger suppliers.

What do you think?

7

What work are you planning or doing to increase interoperability within the electricity system?
Are you aware of any work or research that contributes to this goal?



4. We need simple solutions for better engagement

Simplifying information, options and actions for consumers

4.1 A future where consumers actively manage their electricity use in response to signals (such as price) is only possible if participation is simplified. This means making information, options, and actions easier to understand and access.

4.2 By making it easier for people to get involved, we give them more opportunities to make choices. Choices let people and communities have a say in how the electricity system evolves – for example, people choosing to store power for later consumption via a battery can collectively impact network investment choices.

4.3 Consumers currently face a range of barriers to actively participating in the electricity system. For example, a consumer may understand the system benefits from shifting their power use, but may not receive timely information to allow them to adjust their behaviour. Due to the lack of available information, they may also not know the value of their contribution – or how they should be rewarded for it – reducing the incentive to participate.

4.4 Making it easier for consumers to participate means refining the current state of information and options. It also means preparing for a future where automation can help consumers take action to manage their needs.

Simplified information helps consumers make informed choices

4.5 Simplified information means making it easier for consumers to understand how the electricity sector works. Consumers should not have to deal with the complexities of the electricity market. For a variety of reasons, some will not know how their pricing plans compares to others and may experience difficulty with the switching process.[7] This – along with factors like time and interest – leads to a lack of engagement. Consumers may then focus only on cost certainty, instead of adjusting their electricity use to help manage peak demand or local constraints alongside reducing their bill.

4.6 Breaking down costs into components may seem like transparency. But if the information does not help consumers make informed choices, it only distracts and disengages them. Another approach is standardising the key elements of product and financial information to improve consistency across bills, making comparison easier.

7 Supporting consumers to compare and switch electricity plans, paragraphs A7, A8 and A45.

Simplified options help consumers choose well

4.7 The goal of simplified options is to ensure all choices create value for consumers based on their individual behaviours. Pricing plans and other non-price product offers, which were once created to innovate and encourage certain behaviours, may now be overwhelming due to their quantity or presentation. Instead of offering real choice, they can confuse consumers. Consolidation can help simplify options (see paragraph 3.4). We expect:

(a) Real choice and innovation to lead to more options in the market. Our Consumer Care Obligations clearly state retailers must make it easy for consumers to access information about their products, services and pricing plans.

+ Read our Consumer Care Obligations

(b) To make comparisons easier, plans that do not enable consumers to actively make choices should be phased out over time. Information about plans should also be presented in a way that helps consumers make informed decisions.

Simplified actions encourage sustainable behaviours

4.8 Simplified action means that, over time, consumers will not need to make so many micro decisions around their electricity use (for example, turning on their heating or manually choosing their electricity provider). Consumers will increasingly agree to constraints and settings (for example, heating their house based on forecast temperature data, or switching electricity providers if estimated savings exceed their personally set threshold of $100 a year).

4.9 Automation and artificial intelligence (AI) will drive improvements, reducing the need for consumers to make choices at every step.

(a) As smart homes and devices become common, we expect the systems behind and in front of the meter to merge or become better integrated.

(b) Even small changes in how energy is used (or produced) can significantly benefit the system (for example, load-shifting or reduction). These changes should not negatively affect consumers' experiences. In many cases, they will bring real value to consumers.

(c) AI-enabled tools could also help identify and direct consumers toward deals that better align with their preferences, which may go beyond cost alone.

4.10 We will need to support open models for action initiation, which allow delegating a consumer's authority (ie, consent) and creating hierarchies of control. We will also need to consider the critical data required for models and systems to improve these actions.

4.11 Consumers benefit from simplification. It helps them understand costs, compare options more easily, and make more active choices.

Today

If a consumer wants to compare retail plans using their past electricity use, the process is slow. They likely have to request their data from their retailer, who can take up to five business days to respond.

In the future

Consumers could give consent to share their past electricity use with a third party. A comparison and switching service could potentially then instantly work out the best retail plan for them. It may also automatically switch them to the plan that best suits their needs.

Real-life examples of simple solutions

4.12 VoltView is an energy management platform in the UK, focused on small- and medium-sized businesses. It monitors how different equipment uses energy and analyses billing information to recommend cost-saving actions – for example, load shifting or investing in more efficient equipment. It also lets users switch electricity suppliers directly through the platform. This reduces the effort and analysis needed from the consumer.

4.13 In New Zealand, Blackcurrent runs a similar platform for business and rural consumers. It does not offer switching, but it includes energy generation and storage. This allows users to take part in flexibility services.

+ Read about Blackcurrent

What do you think?

8

What challenges do you think we might face in simplification?
How could simplifying create more opportunities?

Our efforts to simplify

4.14 We are working on simplifying systems and processes for consumers. For example, we are supporting MBIE to develop product data standards for a 'consumer data right' for the electricity sector, and are looking at improving consistency of power bills across retailers. We also published requirements under our Consumer Care Obligations for retailers to tell consumers about their relevant products, pricing plans, conditions and fees, and to make sure the terms and conditions are easy to understand.

+ Read our Consumer Care Obligations

What do you think?

9

What work are you planning or doing to increase simplification within the electricity system?
Are you aware of any work that contributes to this goal?

5. Summary of our digitalisation programme

5.1 We are developing a roadmap and actions to help drive digitalisation across all points of the system.

We have identified five focus areas

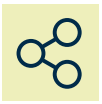
5.2 As we develop our plan and deliver work to support the digitalisation of the electricity system, we focus on the following areas to make it data-rich, open, connected and efficient.

Setting the digitalisation agenda

to create a shared vision of the future and a case for change – starting with this paper

Increasing visibility

by addressing systemic barriers and moving towards a 'presumed open' system



Increasing interoperability

for a future with seamless transitions between datasets and systems

Simplifying for consumers

to reduce unnecessary complexity and improve their experience

Monitoring global progress

by staying informed on international initiatives and developments

Our current projects

5.3 We are already working on several projects that deliver digitalisation.

Improving retail market monitoring by introducing mandatory retailer reporting of domestic and small business customer data

Increasing network visibility by looking at how to make network capacity and constraints more visible. We expect to publish a consultation paper in June 2025

Improving transparency of network capacity and connection pipelines through our network connections project that aims to remove barriers and create efficiencies in the application process for connecting distributed generation and large load to networks

Enabling multiple trading relationships and improving switching processes. Our 'Evolving multiple retailing and switching' consultation paper is open until 29 July 2025 for feedback on proposed rule changes

- Using the independent Switch and Data Formats Group to support the technical development of our digitalisation programme and other Authority activities
- Working closely with MBIE on the development of a 'consumer data right' for the electricity sector, anticipating that the Government will make decisions about designating the electricity sector following the enactment of the Customer and Product Data Act 2025
- Improving the coordination of DER through our future system operations consultation. Our issues paper on 'The future operation of New Zealand's power system' will be published in late June 2025.

What's next?

5.4 This paper is our first significant step toward creating a whole-of-system view of what needs to be done to deliver a digitalised electricity system. Your input will help us understand what's already happening and identify any barriers and the opportunities. It will also inform the Authority's roadmap and actions (work programme) to deliver a digitalised electricity system.

5.5 During August and September 2025, we expect to undertake further targeted workshops or other engagements to clearly map out relevant work across electricity system (and beyond).

5.6 Later in the year, we will publish this system map on our website for further discussion. It will clarify our expectations of what we intend to deliver through our digitalisation programme and the relevant initiatives we expect the industry to lead and deliver over the following year. We will empower and support industry to take the lead where it makes sense to do so. In 2026, we will monitor progress and look for further opportunities to work with industry, the tech sector and others on the programme.

6. We want to hear from you

6.1 We value your input in shaping the direction of our plans. There are three ways you can share your feedback with us.

6.2 **Written submission:** Prepare your submission in Microsoft Word format by following the guidelines in Appendix A of this paper.

6.3 Put 'Digitalisation paper' in subject line.

6.4 Email your completed submission to digitalisation@ea.govt.nz

6.5 Contact us if you cannot email us your submission:

(a) Email: digitalisation@ea.govt.nz

(b) Phone number: 04 460 8860

6.6 **Online survey:** You can answer the same questions in our online survey at ea.govt.nz/digitalisation/survey

6.7 **Come talk to us:** We're also open to hearing your feedback over the phone or in person. We will treat this as a verbal submission and write a summary of your feedback. To arrange a time, email us at digitalisation@ea.govt.nz with 'digitalisation paper' in the subject line.

6.8 We must receive your feedback by 5pm, Thursday 10 July 2025.

6.9 Check your emails for an acknowledgement receipt from us.

6.10 Contact us if you have not received an acknowledgement within two business days at digitalisation@ea.govt.nz or on 04 460 8860.

Publishing submissions

6.11 Please note we will treat all feedback as submissions, which we will publish on the Authority's website. If there are parts of your submission you believe should not be made public, you must clearly:

(a) let us know which parts should not be published

(b) explain why it should not be published

(c) send us a version that we can publish (if we agree not to publish the full version).

If you ask to keep certain parts unpublished, we will work with you to decide on the best approach.

6.12 Understand that we are required to release all submissions under the Official Information Act 1982, if a request is made. This includes non-published sections – unless we have valid reasons to withhold them under the Official Information Act. We normally check with you before releasing any material you have asked us not to publish.

Appendix A: Format for submissions

Complete the submission form below and email your completed submission to digitalisation@ea.govt.nz with 'Digitalisation paper' in the subject line.

Terms and Conditions

We will publish your name and organisation (if this applies), but not your contact details. If you think we should not publish any part of your survey response, please tell us which part shouldn't be published and why.

Please note, all survey responses, including parts you've asked not to be published, can be requested under the Official Information Act 1982. This means we would be required to release all surveys in full, unless there was a good reason under the Act to withhold it. We would consult with you if this meant releasing information you asked not to be published.

I understand (select one): ◯ Yes ◯ No

Submitter (full name)	
Who are you responding as? (select one)	◯ Consumer ◯ Innovator or technology company ◯ Small or medium business consumer ◯ Industry participant ◯ Other
Organisation and position (if applicable)	

Questions	Comments
Q1. What could stop or slow digitalisation of the electricity system? What would make it successful? How far should digitalisation go?	
Q2. Do you agree with how we have defined 'data' and 'information', especially in the context of making data more visible?	
Q3. What data do you think needs to be more visible?	
Q4. What challenges do you think we might face in trying to increase visibility? What considerations need to be given to data privacy or cybersecurity? How could increasing visibility create more opportunities for consumers, participants and innovators?	
Q5. What work are you planning or doing to increase visibility within the electricity system? Are you aware of any work that contributes to this goal?	
Q6. What challenges do you think we might face in increasing interoperability? What other opportunities do you think greater interoperability will bring?	
Q7. What work are you planning or doing to increase interoperability within the electricity system? Are you aware of any work that contributes to this goal?	
Q8. What challenges do you think we might face in simplification? How could simplifying create more opportunities?	
Q9. What work are you planning or doing to increase simplification within the electricity system? Are you aware of any work that contributes to this goal?	
Q10. Do you have any other comments on this paper?	

Appendix B: Glossary of abbreviations and terms

Authority	Electricity Authority
AI	Artificial Intelligence
API	Application programming interface
BESS	Battery energy storage system
CER	Consumer energy resources
DER	Distributed energy resources
EEA	Electricity Engineers' Association
EECA	Energy Efficiency and Conservation Authority
EV	Electric vehicle
ICP	Installation control point
MBIE	Ministry of Business, Innovation and Employment